

The Utah Health Data Committee 1998 Biennial Report

Accomplishments, products and future challenges of the Health Data Committee and the Office of Health Data Analysis


Published by the Utah Office of Health Data Analysis, December 1998

UTAH HEALTH DATA COMMITTEE
MISSION STATEMENT

The mission of the Utah Health Data Committee is to support health care reform initiatives through the collection, analysis, and public release of health care information.

Through public-private collaboration, the Committee will participate in the development and implementation of a statewide health data reporting system capable of providing accurate and independently validated information in a timely way.

The committee will implement policies to transform data into objective baseline, trend, and performance measurement information which will be made available to all legitimate users without compromising patient privacy and confidentiality.

Adopted 1994

Data Products

Public Data Sets
- Inpatient
- Ambulatory Surgery
- Emergency Department

Research Data Sets
- Inpatient
- Emergency Department

Annually Published Statistical Reports

Internet Health Data Query System

Consumer Oriented Guides and Brochures

Users of the HDA Data

Consumers
Employers
Insurance
Government
Utah Hospital Association
Health care providers (e.g. physicians, hospitals, health organizations)
Health care consulting groups
Health Policy Commission
Researchers
Utah Department of Health
Office of Public Health Data
Bureau of Emergency Medical Services

Uses of the Data

- Supports quality improvement activities that have helped reduce costs and/or promote quality
- Promotes provider accountability and competition
- Provides data that can be used by consumers, health providers and policy makers to analyze utilization, costs and outcomes
- Provides unbiased information that allows all users of health care to make better health decisions

Acknowledgments

This report was prepared by the Office of Health Data Analysis under the direction of the Utah Health Data Committee.

Utah Department of Health

Rod Betit	Director
Richard Melton	Deputy Director
Scott Williams	Deputy Director

Health Data Committee

Lee K. Brinton	Small Business
Penny S. Brooke, RN, JD	Nursing
Eugene W. Chapman	Business
Orrin T. Colby, Jr.	Business
Mike Dean, MD	Private Physician
Wen H. Kuo, Ph.D.	Public Interest
J. Brett Lazar, MD, MPD	Public Health
Sandra L. Peck	Consumer Advocacy
H. Gary Pehrson	Hospital Representative
Keith Petersen, MD	HMO Representative
Lori Reichard	Consumer Advocacy
Michael J. Stapley	Third Party Payer
Dennis Tolley, Ph.D.	Academic Public Health

Office of Health Data Analysis

Denise Love	Director
Luis Paita	Director of Research
Carrie Chen	Information Analyst
Ryley Fogg	Research, Graphics
Irina Grabovsky	Application Programmer Analyst
John Kane	Information Analyst Supervisor
Kevin Lertwachara	Research Analyst
Zhiwei Liu	Application Programmer Analyst
Janet Scarlet	Executive Secretary
Gulzar Shah	Research Consultant

For Questions or comments, contact:
Office of Health Data Analysis
Utah Department of Health
288 N 1460 W
PO Box 144004
Salt Lake City, Utah 84114
Voice: (801) 538-7048 Fax: (801) 538-9916
Email: lpaita@doh.state.ut.us

This report, and other Utah HDC reports and databases can be accessed through the Office of Health Data Analysis' website: **www.healthdata.state.ut.us**

Table of Contents

"According to users of the data, the information produced by HDA does provide a public benefit by helping control costs and promoting provider accountability. Consequently we believe the legislative purpose for which HDA was created is being fulfilled."

-- Legislative Auditor, February 1998

Executive Summary

Report Summary

This report summarizes the major activities and accomplishments of the Utah Health Data Committee (HDC) and the Office of Health Data Analysis (HDA) in compliance with a statutory requirement for a biennial report to the Utah legislature. This Executive Summary provides a background and an overview of HDC's activities since its creation in 1990, including a description of present and future challenges the HDC faces.

The rest of the sections of the report provide further detail on the most recent activities and accomplishments, during the period from November 1996 to October 1998:

I. Expanded collaboration and partnerships, including HMOs, UHIN, Bureau of Emergency Medical Services, Bureau of Managed Health Care/Medicaid, Office of Public Health Data, and the Division of Community and Family Health Services.

   Underwent an audit by the Legislative Auditor General whose findings were highly favorable to HDA.

   Received recognition and awards from entities external to the Utah Department of Health.

II. Developed and implemented the Utah Health Care Performance Measurement Plan including the collection, analysis and dissemination of HEDIS performance measures from HMOs and survey of enrollee satisfaction.

III. Expanded the analytic utility of the Hospital Discharge Database.

IV. Implemented ambulatory surgery data collection from hospitals and freestanding ambulatory surgery centers.

V. Collaborated on the development of the Emergency Department Database and generation of summary reports.

VI. Expanded and enhanced its website including its internet health data query system and user friendly on-line access to all HDA publications.

Background

The Utah Health Data Authority Act (26-33a) enacted in 1990, established the Utah Health Data Committee and defined its purpose to "collect, analyze, and distribute health care data to facilitate the promotion and accessibility of quality and cost-effective health care and also to facilitate interaction among those with concern for health care issues." The 1996 Legislature expanded data collection activities through H.B. 305 in 1995 and inserted "report card" intent language into the Utah Health Data Authority Act in 1996 with S.B. 171. In this rapidly evolving health care industry, transformed by managed care and competitive pricing pressures, a source of objective, nonproprietary, and comparable information is essential to measure and monitor the quality of and access to care for all Utahns.

The Office's total budget in Fiscal Year '97 was $821,000 and $872,300 in FY '98. For FY '98 the budget is broken down as follows: $500,000 general appropriations; $300,000 Medicaid ($150,000 HMO Performance Measurement, $150,000 Analytic Studies); Society of Actuaries Grant $30,000; and expected Data Product Sales ~$43,000.

HDC/HDA 1990-1998

The Health Data Committee's work since 1990, can be divided into several stages, listed below:

1990-1993:

The committee worked to establish a vision, mission, and determine priorities. Establishing a public process for planning, assessment of hospital technical capacity, and start-up required a great deal of time and energy. Hospitals incurred the highest costs at this time. But once systems were adapted to accommodate reporting, the ongoing costs to produce the data were said to be marginal.

1993-1996:
This stage included implementation of the inpatient hospital discharge data reporting system, including all-payer hospital encounters from all licensed hospitals in Utah and the Veterans Administration Medical Center. Solving technical difficulties and implementing processes for validating data and analytic reports, testing different analytic methodologies (e.g. risk-adjustment and peer groupings) required a partnership with hospitals and other interested parties.

1996-1998:
This stage was one of rapid growth in office capacity and responsibilities, both in new initiatives to meet consumer reporting needs and to expand facility-based reporting. In 1996, S.B. 171 inserted "report card" intent language into the Utah Health Data Authority Act. The committee went through its first community-wide planning process since 1990 and worked hard to bridge competitive tensions between HMOs to create comparative managed care reports for consumers. During the HMO report card implementation, the committee also oversaw expansion of the inpatient hospital discharge data reporting system to include ambulatory surgery and emergency department encounters and improvement of data quality and the content of reports to include population-based and small area analyses. The Office of Health Data Analysis was retained by Medicaid to implement its managed care reporting system (HEDIS reporting, satisfaction surveys, and encounter data base development).

1998 and beyond:
The Health Data Committee and the Office of Health Data Analysis have responded successfully to previous challenges and have established a strong technical and analytic infrastructure capable of supporting statewide systems to support health care cost, quality, and access studies. Health care is becoming increasingly complex. The State's ability to make purchasing and policy decisions rely on an ongoing source of comparable, continuous, and credible data. Breaks in the collection process secondary to loss of political support or funding can be expensive to the State in lost information. Some examples of leverage that the State may lose without statewide quality data are listed below:

- Medicaid's ability to negotiate managed care contracts based on "value" or quality purchasing;
- Consumer rights bills and managed care backlash may be correlated to the absence of meaningful, comparative data on managed care plan comparative performance;
- A lack of means for holding managed care plans accountable for their care of Utahns, especially vulnerable populations (chronically-ill, the elderly, ethnic groups);
- No source of objective, comparable data for consumers and purchasers to make their selection of managed care plans (eventually all types of plans and providers)—in other words, no market.
- The infrastructure that is currently in place to measure quality for Medicaid managed care and the Child Health Insurance Program (CHIP) must be recreated somewhere else. These programs cannot be run without statewide health data systems in place.

Data Quality Assurance

The Office of Health Data Analysis has worked continuously to improve the quality of the data it collects. Strategies that have been implemented are:

1) Increasing the number of hospitals that submit data electronically, thus reducing errors secondary to data entry
2) Enhancing editing programs to identify specific and overall error rates

Consolidation of editing programs has enabled the Office to handle two additional large data sets (emergency department and ambulatory surgery)

and reduce the data processing time from over one year to seven months. Additionally, the Utah Health and Hospital Association receives quarterly data for market assessment.

Hospital Discharge Data Audit

Audit is one of the important mechanisms to ensure the quality of data. The Quality Advisory Committee under the direction of Utah Health Data Committee (HDC) recommended an evaluation of data quality by conducting audits of random samples of HDC's hospital discharge records. Utah Health Policy Commission recommended and the Utah Legislature granted a budget for this audit project in FY 1996-1997.

After considering alternatives, an audit was designed to include the following objectives and HealthInsight was selected as a subcontractor.

Objectives of audit:

1) Auditing the consistency between the reported data and the original data in hospital information systems
2) Auditing the accuracy of selected data elements such as social security number, principal diagnosis, etc.
3) Identify the variation of coding and reporting practices

Findings:

1) Very few DRGs were changed
2) Rural Hospitals need special assistance

Based on the findings, HealthInsight conducted coding clinics throughout the state to improve and standardize coding practice.

HEDIS Audit

The Office contracted with the National Committee for Quality Assurance (NCQA) in 1996 to perform an audit of Utah Managed Care Organizations' 1996 HEDIS data. The purpose was to ensure that the State received accurate and reliable HEDIS data that can be used to assess and publicly report health plan performance. A more detailed description may be found under the Utah Health Care Performance Measurement Plan section.

Future Challenges

Since its establishment by the Utah Health Data Authority Act (26-33a, U.C.A.) in 1990, the Utah Health Data Committee has successfully faced technical, political, and funding challenges. The Office of Health Data Analysis, responsible for supporting the Health Data Committee, has proven its leadership in analytic and technical innovation.

Despite the success, the office and the committee face challenges. The office's reliance on legislative appropriations for a large part of its base budget requires that Legislators understand the value of statewide health data systems for the public good and the political tensions inherent in the release of proprietary data for public consumption.

<u>Technical challenges</u>

Currently, facility-based data includes only total charges ("retail" amount). To fuel a market, it will be necessary to add the "paid" amount to the data base, but this information is considered proprietary information by providers and payers. Finding a way to add this information while remaining sensitive to proprietary interests will continue to challenge the data committee. Other objectives for HDC/HDA include:

1) Standardizing critical fields, such as physician identifier and payer identifier will permit physician profiling (provided the politics of this issue can be worked out in conjunction with the physician community) and payer profiling.

2) Converting facility-based data reporting standards to ANSI X12 837 formats as providers comply with the administrative simplification provisions of the Health Insurance Portability Act (HIPAA) will require adjustments to the

technical infrastructure, the addition of administrative rules to govern collection, and extensive testing of data to evaluate the quality and completeness of submissions.

3) Improving dissemination of consumer and other reports developed for targeted audiences. This linkage will require consumer outreach, education, and feedback. Translating complex health information into understandable terms while addressing competitive proprietary interests may the most formidable task.

Funding challenges

The greatest difficulty in sustaining statewide health systems performance data systems is funding. Resolving the issue of who pays for statewide reporting will be important to ongoing reporting. Shared responsibility between the public sector, the industry, and users of the data is an ideal arrangement. However, the political nature of outcomes and comparative reporting that often creates competitive tensions, leave the agency vulnerable to political attacks. Additionally, pricing for data products must be carefully considered to assure that the data generated actually benefit the public and the market and not be limited to just those who can pay.

The Legislative Auditor General's Office recommended that the office obtain at least one-half of its general revenues of $500,000 from the "health care industry." Although, the Legislative Auditor's recommendations did not specify the mechanism for receiving the funding, the legislative intent language in the 1998 Appropriations Bill states that:

"It is the intent of the Legislature that the Office of Health Data Analysis becomes self sustaining through the sale of its data, published reports, products or services to all business, insurance, research or commercial entities to the greatest extent possible. Fees derived from the sale of these products and services shall be sufficient to generate one-half of the operating budget by the beginning of fiscal year 2000."

To increase revenues from data product sales has been a goal of the office for many years, steadily increasing each year. The office hopes to gain about $43,000 in revenues through data product sales in F.Y. 1999. Pricing is structured to assure maximum sales volume and wide dissemination of data products and remain consistent with the legislative mandate to make information widely available to the public, including consumers.

Payers and hospitals currently incur costs to provide the Health Data Committee with data from their systems. Costs associated with start-up programming, ongoing submissions, validating data, and advising on report content are included in these costs. To encourage the use of the data resulting from industry submissions, pricing should be structured to encourage its use. Through the industry's use of the data, market dynamics are improved, as is health care quality through benchmarking of "best practice" in medical care.

To make up for diminishing state funding, the Office of Health Data Analysis has made up this difference with contracts and grants. As Medicaid, the Child Health Insurance Program (CHIP), and grants absorb resources to meet deliverables, the ability of the office to attend to statewide health data systems is challenged.

The reliance on data sales to sustain statewide health data reporting ignores the "non-market" value of statewide morbidity data to the public's health. Hospital discharge data are a rich source of population-based morbidity data not available by other means. Measuring the variance in outcomes and utilization by geographic, payer, and patient characteristics is an important tool for public health, beyond market value. Additionally, the value of holding health plans accountable for their quality and performance is a public benefit and important to Utah's health system.

I. Highlights of HDA's Accomplishments

Legislative Audit

The Legislative Auditor General of the State of Utah in the Fall of 1997, conducted an extensive audit of the Office of Health Data Analysis.

In its report released in February of 1998, the auditors concluded that "HDA appears to be meeting its legislative mandate by providing information that promotes cost-effective, quality health care and greater provider accountability." The report cited evidence that the state-produced data provides an important public benefit. In addition to public health agencies, many other state and industry users were identified. The State Industrial Commission has used HDA's hospital discharge data to observe and improve practice patterns for injured workers. Health care actuaries use HDA data to analyze differences between insurance costs and hospitalization charges which facilitates rate negotiations with providers, cutting costs.

In addition to providing data for studies of interest, the health data provides trend information that can be useful in identifying areas of improvement. The quality improvement department of a Wasatch Front Hospital used HDA data that showed their length of stay (LOS) to be excessive compared to peer hospitals to reduce LOS and cut costs.

The comprehensiveness of the hospital inpatient, ambulatory surgery, and emergency department data bases is important to the many users of the data. As one actuary stated, "The depth and segmentation of their databases is great" and stated the information is used in "evaluating contract effectiveness, and to see if the client paid more or less than the average charge in the hospital in which they receive care."

"The actuary industry would suffer a tremendous setback if HDA was not doing what they were doing."

--Legislative Auditor, February 1998

"HDA data are being used to promote cost effective, quality healthcare in the state and have provided specific examples of how data make a difference"

-- Legislative Auditor, February 1998

HDA Collaboration and Partnerships

The Office will continue to rely on partnerships with other state and federal agencies, professional associations, the private sector, and consumer groups. Examples of successful partnerships that have enabled the Health Data Committee to progress in its accomplishments include the following:

- **Matchiim:** HDA provided the technical and programming design expertise that has helped to implement a public health/maternal child health indicators outcomes system.
- **Utah's Counties:** Calculated population projections for each county in Utah
- **Action 2000** (Assessment Capacity Through an Information On-line Network): Created links to state databases including the leading causes of death, death and birth rates and mortality rates in Utah.
- **UHIN** (Utah Health Information Network): Implemented the statewide statistical data base that includes encounter data.
- **USIIS:** Created a global rule for the collection of hospital data.
- **Medicaid:** Established a managed care data base to assist in HEDIS Compliance for NCQA for Medicaid HMOs, and to study long term care capitation for nursing home recipients.
- **Utah Health and Hospital Association:** Developed data products for the HC industry.
- **Bureau of Emergency Medical Services, DOH:** Implemented a statewide Emergency Department encounter data reporting system.

Recognition & Awards

Cost Effectiveness of Contraceptives Study

HDA received funding from 4 pharmaceutical companies to perform an independent actuarial study to determine the cost-effectiveness of prescription contraceptives that are currently covered by some health plans. Representative Allen's H.B. 105 proposed this study to assess the effect of mandated coverage of oral, injectable or implantable contraceptives for women. On the federal level, Congress passed a bill requiring insurance plans that insure federal employees to cover the costs of all 5 prescription contraceptives in October of 1998.

Findings from Utah PEHP claims suggest that:

> Plan coverage appears to increase the use of contraception and reduce the health care utilization due to adverse pregnancy outcomes.

The analysis is based on data from Medicaid, Public Employees Health Plan (PEHP), and various sources in the Department of Health.

Companies funding this study include: Ortho-Mcneil, Johnson & Johnson, Upjohn-Pharmacia and Wyath-Ayerst.

Citations in National Publications

- Faulkner and Gray, best internet site for injury data
- Faulkner and Gray, 1999 Medical Quality Management Sourcebook, "HMO Satisfaction Survey Results: How Commercially-Insured Utahns Felt About Their HMO Plans," (published article from HDA)

Society of Actuaries Research Grant Award.

The Office of Health Data Analysis was awarded a 1997 Society of Actuaries research grant to evaluate the effectiveness of HEDIS (Health Employer Data and Information Set) as measures of HMO performance. The study looked at the reliability and validity of selected HEDIS measures. As HEDIS is becoming the standard used to judge the quality of health plans, both the office and SOA recognized the need to understand its analytic utility and limitations.

Utah is recognized nationally as a leader in health information initiatives.

Initiatives include:

- **Implementing HMO report cards: Commercial and Medicaid populations**
- **Expanding facility reporting to include ambulatory surgery and the Emergency Department**
- **Releasing a quarterly report to the industry**

Issues addressed:

- How consistent are HEDIS measures across plan types, location, and enrollment composition?
- How consistent is the relative ranking of health plans across different HEDIS measures?
- To what degree do HEDIS process measures correlate with performance in objective outcome measures? (predictive validity)
- To what degree do HEDIS process and objective outcome measures correlate with performance in subjective outcome measures? (predictive validity)
- To what extent are subjective measures influenced by a health plan's performance independent of plan and enrollee characteristics? (attributional validity)

Overall, a high internal consistency was observed within measure sets, such that health plans that performed well based on one measure, performed well according to the other measures in the set. The consistency between measure sets was weaker and a weak correlation was observed between process and corresponding outcome measures. The study suggests that subjective measures may be a useful indicator of the process and objective outcome measures of the performance of a health plan. Potential opportunities for simplification by reducing measures and calculation of composite scores may be a future improvement for HEDIS reporting.

II. Utah Health Care Performance Measurement

1998 Accomplishments:

- Administrative Rule 428-12 was approved. It mandated HMO participation in HDA's satisfaction survey of performance measures.
- Administrative Rule 428-13 was approved. It mandated HMO HEDIS reporting by health plans. Compared to last years reporting, five additional health plans are submitting HEDIS measures for 1998.
- Results of the 1997 Enrollee Satisfaction Survey of Medicaid and non-Medicaid enrollees in five HMOs were published and released to the public.
- Currently, data for 1998 is being compiled by an independent surveyor and preliminary data for satisfaction measures are being assessed. In addition to Medicaid and commercial HMO clients surveyed last year, persons in Medicaid Fee-for-Service (including the chronically ill population), POS plans, and a HMO plan are being included in this years' survey as well.
- The Office has formed a closer partnership with the Division of Health Care Financing (DHCF) and increased priority on Medicaid products.
- The Office in partnership with DHCF, implemented a complete prepaid mental health (M.H.) plan encounter database for DHCF, containing all M.H. encounters from eight data suppliers.
- In collaboration with DHCF, the office has developed and obtained HMO support for a work plan for the collection of encounter data from HMOs with Medicaid contracts.

1999 Plans:

- CHIP evaluation will be integrated into the existing Medicaid and commercial managed care performance system.
- A three-year trend report on results of satisfaction measures will be expanded to include other payer types.
- The second year release of Health Plan Employer Data and Information Set (HEDIS) performance measures from HMOs, following audit and validation by independent subcontractors retained and funded by the HMOs.
- HDA is working with Medicaid to develop a complete HMO-Medicaid encounter data base that will be used to provide a more complete picture of Utah HMO performance.

Publications:

- 1996 Utah Commercial HMOs: A Guide for Consumers
- 1996 Utah Medicaid HMOs: A Guide for Consumers
- HPS-1: Satisfaction Survey of Enrollees in Utah in Utah HMOs, Comparison of Respondents and Responses between Medicaid Beneficiaries and Commercially-Insured HMO Clients (1996, 1997)

Utah Health Care Performance Measurement Plan

Background/Project Description

The rapid expansion of managed care delivery systems has outpaced the HMO industry's ability to produce meaningful data for prudent policy and consumer decisions about their care. Since 1996, the Utah Health Data Committee has been working with HMOs, Medicaid, policy makers, and public health officials to fill this information gap and has implemented the Utah Health Plan Performance Measurement Reporting System.

Since 1996, one of the Utah Health Data Committee's statutory mandates has been to establish a health care performance measurement system, beginning with managed health care plans, to leverage market-based decisions by consumers, purchasers, and health plans, and to provide policy makers with information about managed care and its impact on Utahns.

The performance measurement system has two major components: enrollee satisfaction surveys and collection of Health Plan Employee Data and Information Set (HEDIS).

Enrollee Satisfaction Survey

The 1996 HMO enrollee satisfaction survey was the first stage of this Health Plan Performance Measurement Project. The survey included approximately 4,000 survey respondents, consisting of 2,000 Medicaid managed care enrollees and 2,000 commercially-insured clients. A series of consumer and technical reports have been produced and released to the public.

In the second stage, the survey was expanded to include additional commercial HMOs. The 1997 HMO enrollee satisfaction survey covered approximately 2,700 Medicaid managed care clients and 2,800 commercially-insured enrollees.

"To date only four states - Maryland, New York, New Jersey and *Utah* - have made substantial inroads into [the HMO report cards] area." -- "Utah and Maryland Lead With New Reporting Initiatives" *Faulkner & Gray, A 1998 Comparative Performance Data Sourcebook*

The long term plan of this enrollee satisfaction survey project is to gradually expand the scope of the survey to cover all major health plans in Utah. In 1998, the enrollee satisfaction survey includes Medicaid managed care clients, Medicaid fee-for-service recipients in rural area, commercial HMO enrollees, and commercial HMO-POS enrollees.

HEDIS Collection

In 1996, the Performance Measurement Planning Subcommittee (PSC) recommended to the Health Data Committee a proposed framework designed to facilitate data collection and reporting of health plan performance reports. Categories of performance identified by the subcommittee include: 1) clinical quality of care (including prevention and wellness), 2) utilization of services, 3) access to care, 4) patient satisfaction, 5) financial performance, 6) general plan management, 7) cost of care, 8) membership, and 9) network affiliation and structure.

The PSC recommended as a starting point the collection of the Healthplan Employer Data and Information Set (HEDIS), developed by the National Committee of Quality Assurance and representatives of employers and health plans. The most prominent of efforts to develop a standardized set of health plan performance measures, HEDIS contains measures reflecting a health plan's performance in the categories listed above.

HEDIS Audit

Validation of data is important to the usefulness and credibility of a performance measurement system. Measures should be reasonably accurate for the plan

characteristic they are intended to measure. Therefore, the planning subcommittee that developed the Health Care Performance Measurement Plan recommended validation and audit of HEDIS measures prior to public release.

The Office contracted with the National Committee for Quality Assurance (NCQA) in 1996 to perform an audit of Utah Managed Care Organizations' 1996 HEDIS data. The purpose was to ensure that the State receives accurate and reliable HEDIS data that can be used to assess and publicly report health plan performance.

Four health plans participated in the audit of 1996 HEDIS data. Blue Cross/Blue Shield, CIGNA, Intermountain Health Care and United voluntarily submitted their 1996 HEDIS data to NCQA and complied with the information requirements of the audit. In future years, the state plans to require Utah's health plans to report HEDIS and has enacted Administrative Rules to guide and assure uniform reporting.

The audit consisted of two parts. The first component of the audit was an Information Systems Capabilities Assessment designed to assess the Managed Care Organizations' ability to collect, store, analyze and report health information. The second component, a HEDIS Verification Audit, evaluated sampling methods and procedures, algorithmic compliance with measurement specifications, analytic file production, results reporting and documentation, and results in the auditor's assessment of reporting compliance.

The audit showed that Utah's plans vary in their ability to report HEDIS measures. NCQA found 16-22 measures to be reportable depending on the product line. Overall, only 21 out of a possible 71 measures were reportable by all commercial plans. The following tables present the distribution of reportable measures by product line and by plan.

Number of Reportable Measures by Product Line

Product Line	Total # of Measures	# of Measures Reportable for All Plans
Commercial HMO	33	21
Commercial POS	33	22
Medicaid	31	16

Number of Reportable Measures by Plan

Health Plan	Commercial HMO	Commercial POS	Medicaid
BCBS	26	NA	19
CIGNA	30	29	NA
IHC	28	29	25
United	26	26	20

Problem Areas

The audit identified the following as problematic areas for multiple plans: continuous enrollment, medical record abstraction, provider information, and separate product line reporting. HEDIS measures that presented difficulties to the health plans are as follows:

Childhood Immunization Status
Adolescent Immunization Status
Prenatal Care in the First Trimester
Initiation of Prenatal Care
Check Ups After Delivery
Availability of Primary Care Providers
Availability of OB and Prenatal Care Providers
Board Certification/Residency Completion
Provider Turnover

Each plan was provided a plan-level summary of audited HEDIS measures. The plans are using this feedback to improve their data quality in future years. Training of chart abstractors and adopting a standardized abstraction tool are among the interventions plans that have been discussed.

Current Status

The survey results have been integrated with HEDIS data sets and other health plan aggregate information in consumer and policy-oriented reports. The Office of Health Data Analysis is in the process of analyzing Medicaid managed care encounter data to establish an analytic infrastructure within the Department and the HMOs. This will provide a foundation for future ongoing all-payer encounter data collection and for special studies, by utilizing reporting standards and building data management and analytic capacity statewide.

Data Integration: Health Plan Performance Measurement

The Health Data Committee passed two administrative rules (i.e. R428-12 and R428-13) to require all major health plans in Utah to report audited HEDIS and participate in a state-funded enrollee satisfaction survey. The data collected through these two rules provide a starting point of public reporting that meet the needs of multiple audiences.

The Office of Health Data Analysis is in the process of compiling Medicaid managed care encounter data. This data analysis effort will be integrated into other collaborative projects with the Utah Division of Health Care Financing in order to establish statewide performance measurement reporting activities. This pilot project will serve as a prototype of other managed care data collection efforts. Based on the Office's experiences from this pilot project, a workplan has been developed in collaboration with DHCF to collect encounter data from HMOs with contracts to serve Medicaid clients. Under this workplan, which has received support from the HMOs, HMOs are expected to submit data beginning in the spring of 1999. Working with health plans and public health agencies, the Office has been able to establish a collaborative working environment. In 1998, the office assisted HMOs and the Utah Division of Community and Family Health to establish linkages of child immunization data. As a result, health plans were able to improve their childhood immunization tracking and reporting.

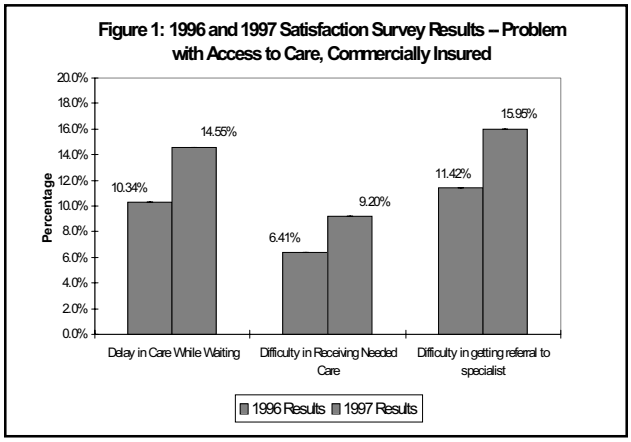
The Utah Health Care Performance Measurement Plan is available at the Office of Health Data Analysis, Utah Department of Health (538-7048).

Performance Measurement Results

Since October 1996, HDA has published seven reports on health plan performance based on HEDIS and consumer satisfaction data. These reports have been featured in the 1997 & 1998 Faulkner and Gray Performance Measurement Sourcebook - a national publication. Some of the findings are shown on the next two pages.

Access to Care

Access to care issues are important to monitor, as they are one of the determinants of enrollees' satisfaction with their health plans. These access of care measures may serve as "bellwethers" of HMOs' responsiveness to their enrollees.



Compared to 1996 results, both Medicaid beneficiaries and commercially-insured clients surveyed in 1997 experienced more problems with access. (Fig 1)

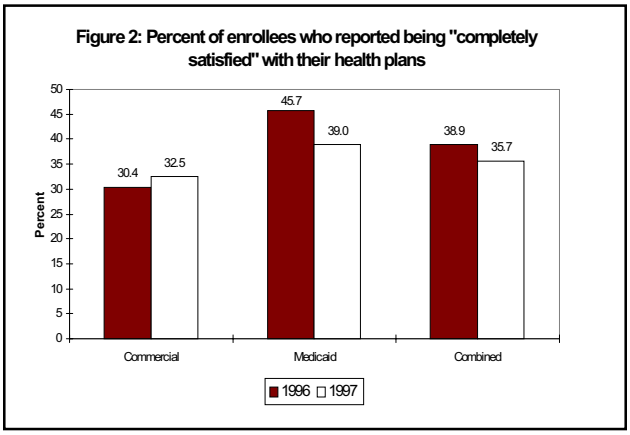
The survey results in 1997 show that about 16% of Medicaid and commercial HMO clients perceived

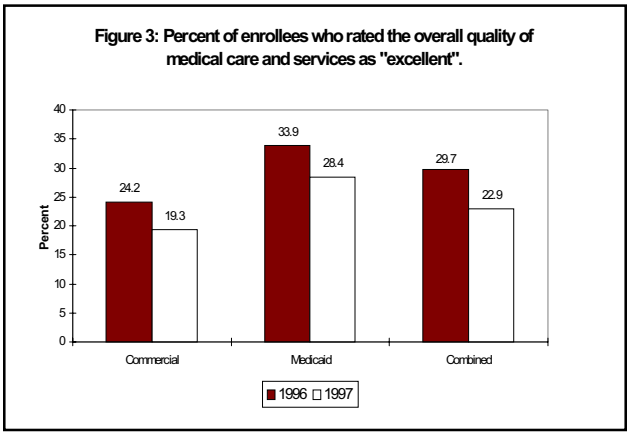
having difficulty in getting referral to specialists, while approximately 14% to 15% of the two populations perceived having problems with delay in getting medical care while waiting for approval. About 10.8% of Medicaid enrollees perceived having some difficulty in receiving medical care that their physician thought was necessary.

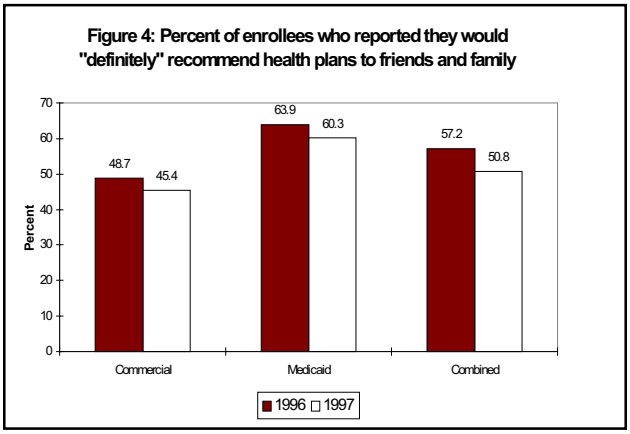
Overall Satisfaction

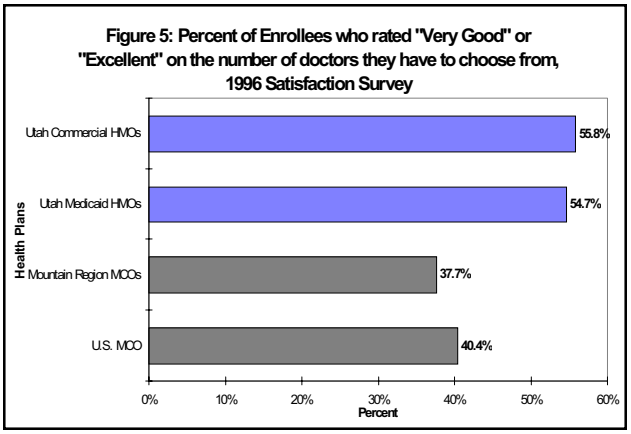
About 39% of Medicaid enrollees reported being "completely satisfied" with their health plan; this is a decrease from last year's 46% rate. For commercial enrollees 32% reported being "completely" satisfied with their health plan, a slight increase from last year.

Although more than 70% of both Medicaid and commercial enrollees reported being "Very" or "Completely" satisfied with their health plan, Medicaid clients reported higher satisfaction levels. (Fig 2)

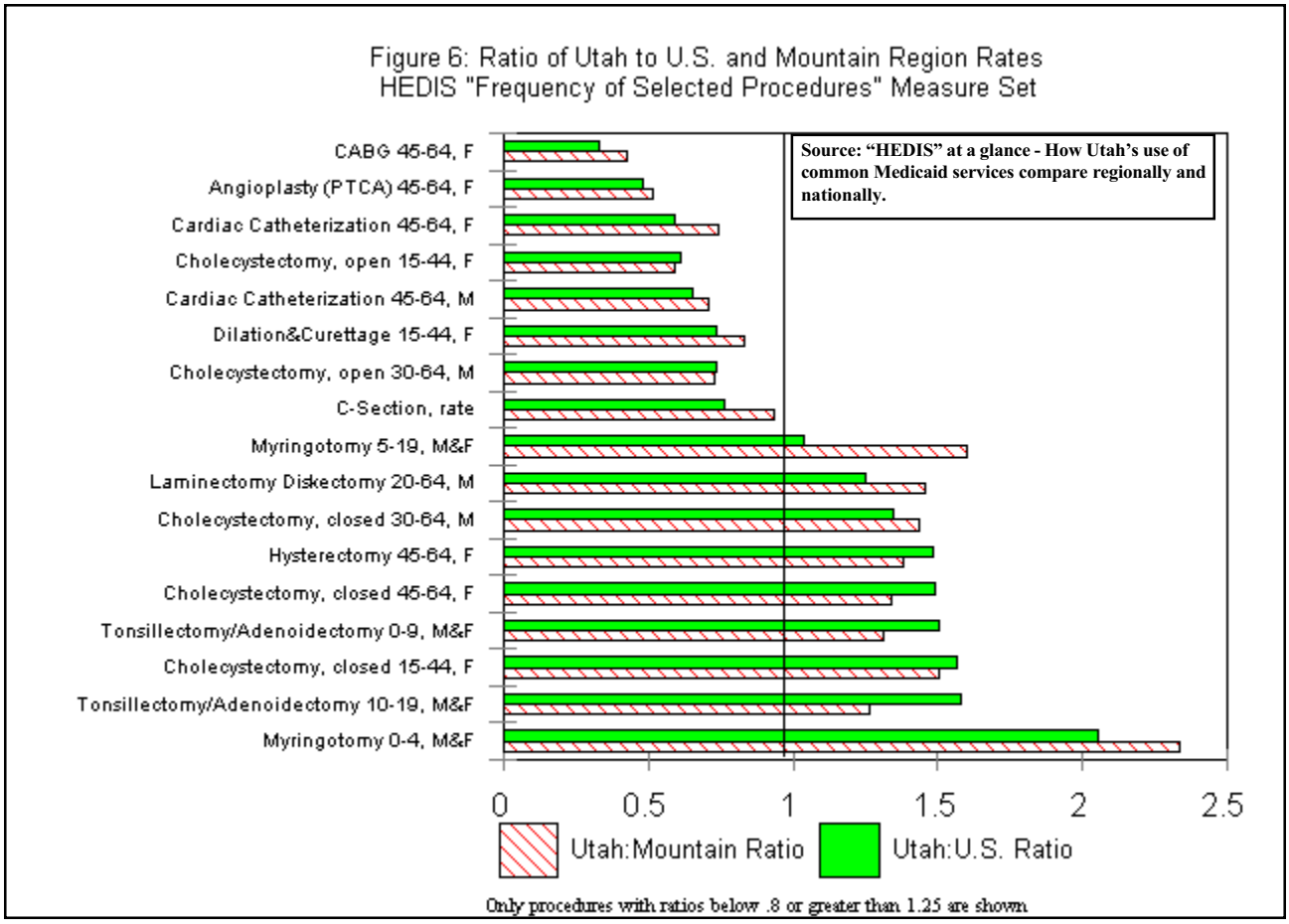








"...In July 1997, Utah released a report that may well be a model for the next generation of [comparative performance] analyses." *– Faulkner & Gray, A 1998 Comparative Performance Data Sourcebook*



III. Hospital Discharge Data Base

1998 Accomplishments:

- R428-10 defined the reporting requirements for Utah hospital and ambulatory surgery data. This allows data providers to submit data through UHIN (Utah Health Information Network) or another electronic data interchange network.
- HDA implemented a quarterly release to hospitals of selected hospital database variables for Utah Health and Hospital Association Patient Origin Destination Studies (PODS).
- Since 1992, there has been an ongoing compilation of inpatient hospital discharge data that is comparable to other state and national hospital databases.
- Utah Hospital Utilization and Charges Profile (ST-1:1997) for all hospitals in Utah is now available for all payer types that were admitted to a hospital. The report will provide data about diagnosis, volume of services, discharges, payer information, and charges for each hospital.
- A second report, MD-1, will assess the inpatient utilization of the Medicaid population, and is scheduled for release in spring of 1999.
- The Utah Hospital Consumer Guide for the most common conditions requiring hospitalization was released in August of 1998. The report provided hospital price comparisons for ten common conditions to use to ask informed questions of an individual's doctor, hospital or insurance agency.
- The report on Hospitalizations for Ambulatory Care Sensitive (ASC) Conditions in Utah was released in May 1997. Ambulatory care sensitive conditions or preventable hospital hospitalizations only require hospitalizations when adequate outpatient care is not received. Rates for 19 ACS conditions were computed for 1993-94 by age, sex, and local health district.
- The amendment to Administrative Rule R428-10 added fields for resident physician identification and type which allows GMEC (Graduate Medical Education Council) to track utilization and quality profiles of resident provided care.

1999 Plans:

- Improvement of HDA's ability to check data that is submitted by hospitals for systematic errors
- Production of a single editing program for Ambulatory and Emergency Department Data received by HDA.
- The addition of statistical editing programs that would check databases for data validity.
- Further evaluation of the option of obtaining data via UHIN or another electronic data network and the feasibility of receiving data from hospitals and other health providers in this manner.

Publications:

- ST-1 1996: Utah Hospital Utilization and Charges Profile Statewide Summary
- 1996 Cesarean Delivery in Utah
- 1996 Selected Quality Indicators of Hospital Patient Care in Utah
- ST-3 Top 50 DRGs with Highest Number of Discharges in 1996: Patient, Provider and Clinical Profiles (1996)
- Utah Hospital Consumer Guide - 1996 Average Charges for Utah's Most Common Conditions Requiring Hospital Admission.
- Utah Maternity Guide - 1997 Hospital Charges for Maternity Related Conditions Requiring Hospitalization
- Hospitalizations for Ambulatory Care Sensitive Conditions in Utah, 1997
- Small Area Analysis of Hospitalizations for Ambulatory Care Conditions in Utah, 1998
- ST-2: Behaviorally Based Preventable Conditions, 1998
- SP-1: Patient Severity, Total Charges, and Length of Stay
- Resource Intensity Index Tables 1992-1996 (limited release)

Background

The Utah Health Data Committee's first priority has been to establish a statewide hospital discharge reporting system. An important source of morbidity, hospital charges comprise approximately 47 percent of Utah's health care expenditures and the data provide important information about health care delivery performance and health status of Utahns.

The hospital discharge data base is a complete compilation of all patient discharge records from Utah's acute care and specialty hospitals since 1992. The data base provides the most complete information on the morbidity of Utahns as well as the performance of the hospital industry. The data base is structured to be comparable to national and other state data bases.

Major benefits:

- Measuring the impact of health care reform policies
- Measuring the major morbidity of Utahns
- Statewide Quality Improvement (Analysis of Patterns of Care)
- Linkage with data bases to evaluate process and outcomes of care

Measuring the impact of health care reform and market policies

Hospital discharge data provides valuable information about the cost, quality, and access to health care in Utah. However, with the increasing penetration of managed care in Utah, this data base provides an incomplete picture about the health care delivery system and the health of Utahns. Preliminary findings based on 1996 data reveal the following trends:

The average hospital charge is rising. In 1996, there continues to be a noticeable increase in the average inpatient hospital charge from 1994 (Table 1). This increase of 6.6 percent is lower than the 1994-1995 increase of 9.02 percent but is still considerably higher than the prior two years' increases of 5.04 percent between 1992-93 and 3.35 percent between 1993-94.

Note: Hospitals currently report only charges to the data committee—not actual cost of care. With managed care, charges may be less meaningful, but it is the only cost measurement available at this time. The collection of cost from providers is controversial and an issue that the Health Data Committee has been struggling with for several years.

Average Total Charges for Utah Hospitals, 1993-1996

	1993	1994	% Change	1995	% Change	1996	% Change
All Hospitals in Utah Summation of Total Charges[1]	$1,346,326,000	$1,371,855,000	1.9	$1,498,928,426	9.3	$1,597,244,625	6.6
Average Total Charge[2]	$5,813	$6,008	3.4	$6,094	1.4	$6,385	4.8
Hospitals in Wasatch Front Average Total Charge[3]	$6,517	$6,780	4.0	$7,109	4.9	$7,363	3.6
Wasatch Front Consumer Price Index (1988=100)	116.1	121.3	4.5	127.4	5.0	131.9	3.53218

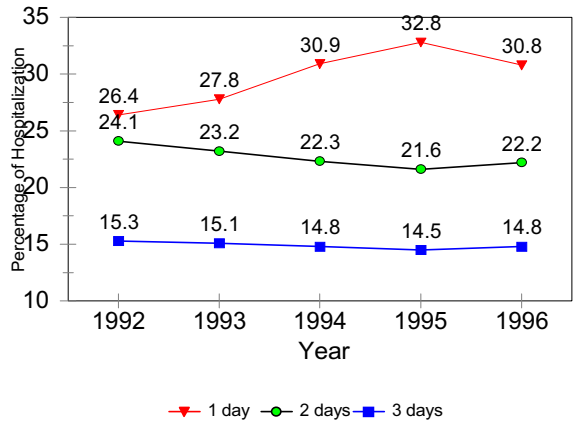
"Data Have Helped Reduce Length-of-Stay. Along with other information, HDA data were used by the quality improvement department in one large Wasatch Front hospital to show that average patient stay was excessive compared to peer hospitals....Previously, the hospital had not routinely tracked patient LOS , but partly as a result of the HDA data, they have since undertaken specific measures to reduce LOS and thereby reduce costs."

-- Legislative Auditor General, February 1998

In 1996, the average length of stay was 3.51 days, down from 4.56 days in 1995. The percentage of one day hospital stays after four years of increases dropped back to 1994 levels. A corresponding trend in decreasing two day stays also returned to 1994 levels (Fig. 7).

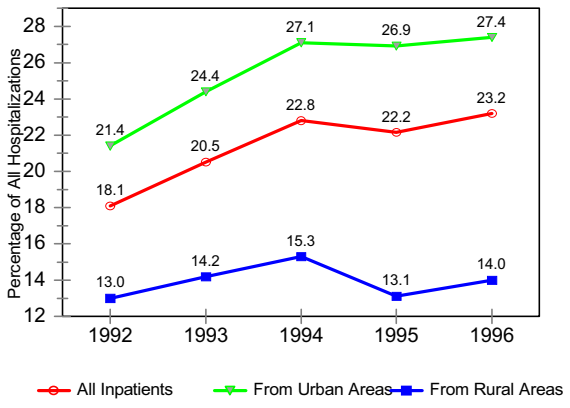
Approximately 59% of Utah's population (Over 1.1 million Utahns) enrolled in managed health care plans (HMO or PPO) in 1996. For the past ten years, the average annual growth of managed care enrollment was over 26% and about 20% since 1992. Managed care has continuously penetrated hospital care markets. The percentage of inpatients whose primary payers were managed health care plans increased from 22 percent in 1994-95 to 23% in 1996 (Fig. 8).

Figure 7: % of Hospitalization by Length of Stay and Year: Utah, 1992-96



Source: Utah Hospital Discharge Database. Utah Health Data Committee.
Note: Excluded missing values and Tooele Valley Regional Hospital (=180 cases)

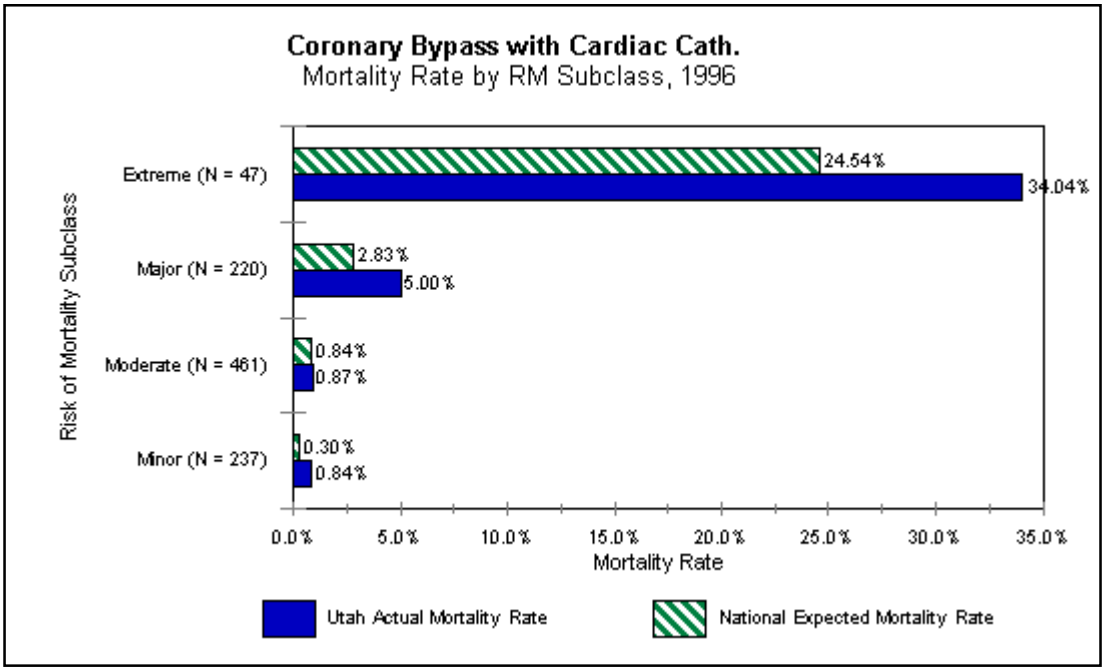
Figure 8: Inpatients W/Managed Care as Primary Payer by Patient's Residence Utah: 1992-1996

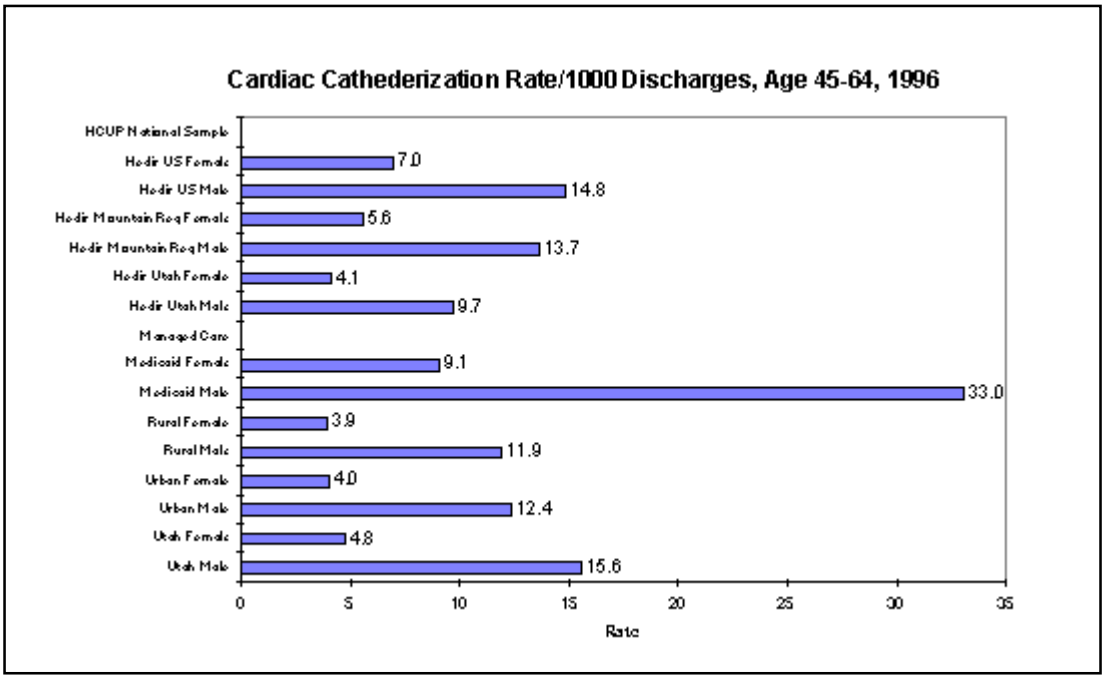


Source: Utah Hospital Discharge Date Committee.
Note: Excluded missing cases and Tooele Valley Regional Hospital (=180 cases)

"[Actuaries] use the data to learn how particular health risks are distributed among providers to analyze differences between insurance costs and hospitalization charges. One actuary stated that 'The depth and segmentation [of their databases] is great'"

--Legislative Auditor General, February 1998





Hospital Inpatient Quality Care Indicators (1992-1996)

Background

The Office of Health Data Analysis has produced a "Utah Hospital Care Quality Indicators" (QI-1) report to provide trend information for Utah and comparative information from twelve states on indicators of hospital care quality. These quality indicators were developed by the Agency for Health Care Policy and Research (AHCPR) through the Healthcare Cost and Utilization Project (HCUP-3). The quality indicators for the twelve HCUP states were calculated by AHCPR from the HCUP Inpatient Database, 1992-1995. The indicators were calculated using a standardized method from uniform data sources. "Discharge data" means the consolidation of complete billing, medical and personal information describing a patient, the services received, and charges billed for each inpatient hospital stay.

Stage of development

The Office is preparing a third report (QI-3) which will include hospital-level quality indicators. The purpose of QI-3 will be to continue examining variations among hospitals, hospital peer groups, payers and urban-rural locations in order to help identify opportunities for quality improvement.

Future plans

The Health Data Committee will propose a collaborative project among hospitals to use hospital-level quality indicators for internal and statewide quality improvement.

Findings

The latest publicly available HCUP statistics suggest that, generally, in 1992, Utah fared better or at least close to the median value for the HCUP states for most of the quality indicators. There were notable exceptions, though. Utah had significantly higher rates than the HCUP states for hysterectomy, laminectomy and spinal fusion, radical prostatectomy, CABG, and diabetes complications (both short-term and long term). Other findings were:

- Utah's rates for acute care discharges and average length of stay are approximately 1.5 and 1.1 times, respectfully, lower than the national average.

- For 1996, Utah's rate for C-section differs among urban (15.72) and rural areas (17.55). Managed care rates for Utah (15.72) and the Mountain region (16.83) were lower than the national MCO rate of 20.57. C-section rates for Utah from 1992-96 show a steady decline.

- In Utah, VBAC rates in urban and rural areas are slightly higher than the HCUP rate of 27.12. Rates in urban areas are 20% higher than in rural areas. Overall, VBAC rates for Utah from 1992-96 are slowly increasing each year.

- Utah's average length of stay for hospital deliveries (women ages 10-49) of 1.71 for 1995 and 1996 remains below the U.S. rate of 2.1 for 1995.

- Utah's rate of pediatric respiratory infections and asthma per 100 children, ages 0-17 has consistently been below the U.S. rates for Simple pneumonia, Bronchitis and Asthma and other respiratory infection and inflammation from 1992-1996.

- The 1995 Utah rate for Cardiac catheterization discharges per 1,000 population (CABG), is 2.6 times higher than the U.S. rate. From 1995 to 1996, Utah rates have increased across age and gender groups.

- In Utah, the overall Coronary artery bypass graft (CABG) rate is 1.5 times lower than the national rate.

- The number of Mental Health discharges (for all ages) per 1,000 Utahns is 2 times lower than the national rate of 7.68.

- From 1992-1995, the rate of transurethral prostatectomy has steadily decreased. In 1995, the Utah rate was 1.5 times lower than the national rate.

- The rate of radical prostatectomy in Utah has not differed much from the national rate.

- The rate of laparoscopic cholecystectomy has remained at a constant level from 1992-1996. The 1995 Utah rate does not significantly differed from the national rate.

- Laminectomy rates for Utah continue to be higher than national rates. In 1995, the laminectomy rate for Utah was 4.6 times higher than the U.S. rate of 0.77.

- Hysterectomy rates for Utah MCOs were slightly higher than the Mountain MCO rate in 1996. The Utah hysterectomy rate for 1995 was 1.3 times higher than the U.S. rate.

The following two pages show details of the results for Laminectomy and/or spinal fusion.

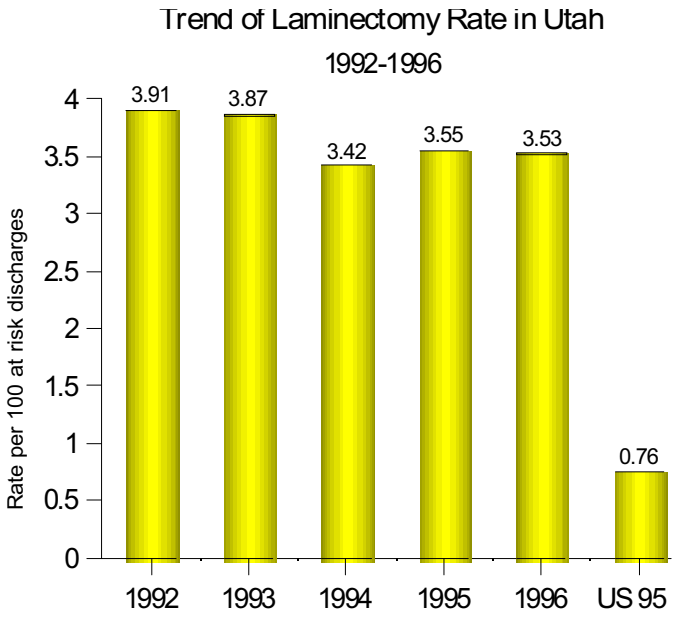
Laminectomy and/or Spinal Fusion

Studies suggest that laminectomy (removal of a portion of a vertebra) and spinal fusion (joining two or more vertebrae for stabilization) are not superior to nonsurgical therapies for back pain and may, in fact, be inferior. Yet, the rates for laminectomy and spinal fusion in the U.S. have grown rapidly in recent years. Although the overall laminectomy rate cannot determine inappropriate use, it may identify areas where laminectomy rates can be reduced. The Utah rate has declined from 3.91 in 1992 to 3.53 in 1996.

Outcome:
Laminectomy, spinal exploration, excision or destruction of intervertebral disc, and/or spinal fusion

Population at risk:
Adults age 18+; exclude deliveries (DRGs 370-375)

Rate:
Number of procedures per 100 discharges



Source: Utah Hospital Discharge Database, 1992-1996.

Individual Hospital Rates, 1996

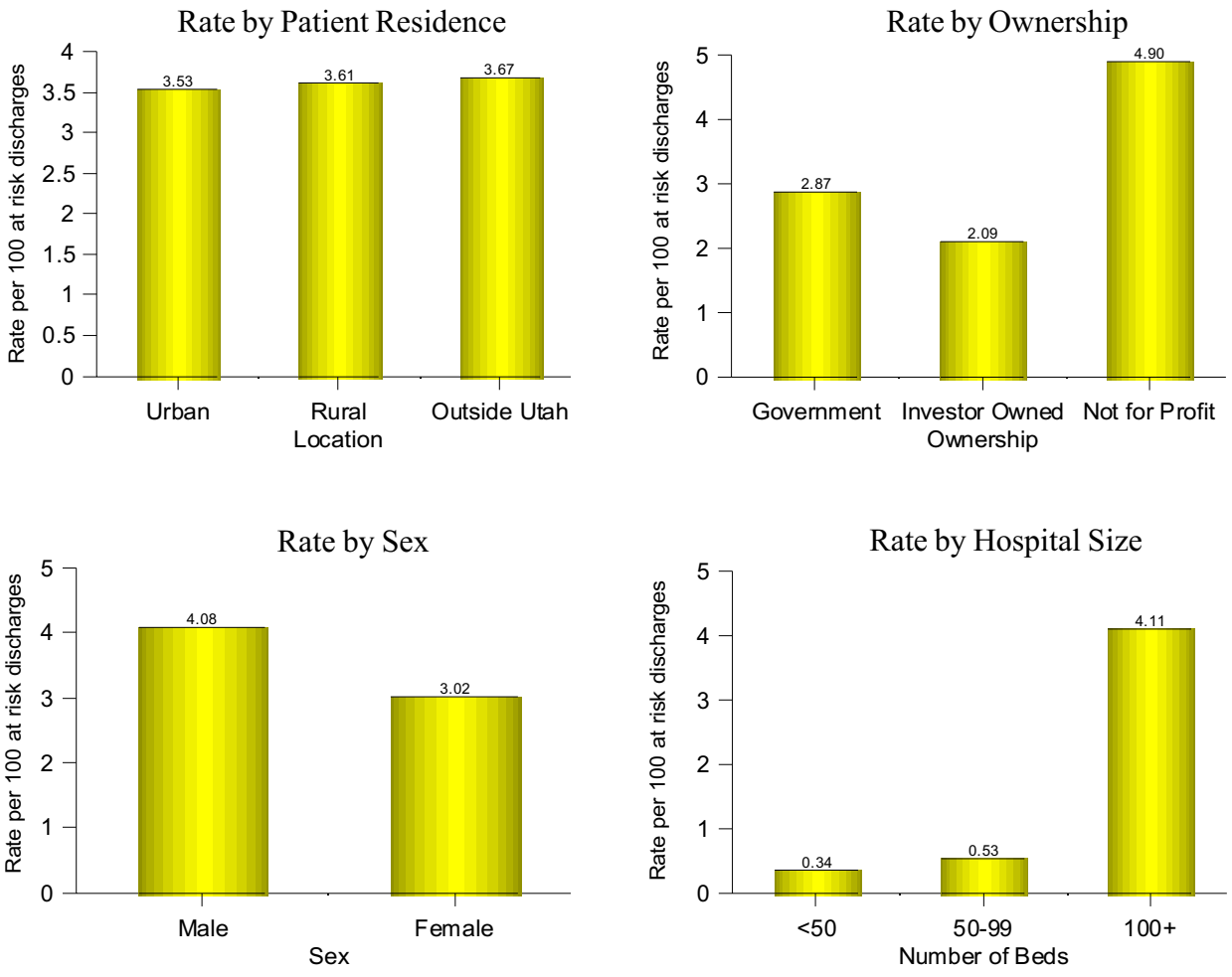
#	Peer	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	12,262	555	4.53
121	1	LDS	14,279	752	5.27
120	2	Salt Lake Regional	4,033	98	2.43
141	2	McKay-Dee	7,411	261	3.52
124	2	St. Mark's	9,080	358	3.94
138	2	Utah Valley Regional	10,383	902	8.69
107	3	Lakeview	2,344	17	0.73
108	3	Davis Hospital	3,552	39	1.10
126	3	Pioneer Valley	2,832	42	1.48
142	3	Ogden Regional	4,505	110	2.44
137	3	Mountain View	2,446	136	5.56
119	3	Cottonwood	6,050	682	11.27
136	4	American Fork	1,778	1	0.06
143	4	PHC**	3,743	9	0.24
118	4	Alta View	2,397	12	0.50
134	5	Ashley Valley	898	0	0.00
140	5	Dixie Medical Center	5,172	11	0.21
105	5	Logan Regional	3,282	19	0.58
112	5	Valley View	640	6	0.94
106	5	Castleview	1,695	18	1.06
103	5	Brigham City	834	22	2.64
139	6	Wasatch County	230	7	3.04
122	N	Primary Children's	321	12	3.74
Do not offer this procedure					
135	4	Orem Community	194	0	0.00
117	4	Jordan Valley	1,188	0	0.00
130	6	Sanpete Valley	197	0	0.00
133	6	Tooele Valley	147	0	0.00
132	6	Sevier Valley	947	0	0.00
129	6	Gunnison Valley	446	0	0.00
111	6	Allen Memorial	426	0	0.00
113	6	Central Valley	349	0	0.00
110	6	Garfield Memorial	230	0	0.00
104	6	Bear River Valley	219	0	0.00
109	6	Uintah Basin	849	0	0.00
114	6	Kane County	233	0	0.00
102	6	Milford Valley	301	0	0.00
101	6	Beaver Valley	255	0	0.00
128	6	San Juan	210	0	0.00
115	6	Fillmore Community	143	0	0.00
116	6	Delta Community	164	0	0.00

** *Closed 6-16-97*

"The State Industrial Commission has used HDA's hospital discharge data to observe and improve practice patterns for injured workers. The HDA data showed that spinal fusion rates in some Utah counties were very high (up to four times) when compared to national rates. Physicians with the commission assembled the state's spinal fusion surgeons to discuss these concerns. As a result , the surgeons have agreed to the development and implementation of several policies for treating lumbar conditions which include screening candidates for spinal fusion surgery and educating patients to the true outcomes of the surgery."

-- Legislative Auditor General, February 1998

Rates of Laminectomy and/or spinal fusion among adults age 18+, per 100 inpatient discharges, excluding DRGs 370-375, 1996



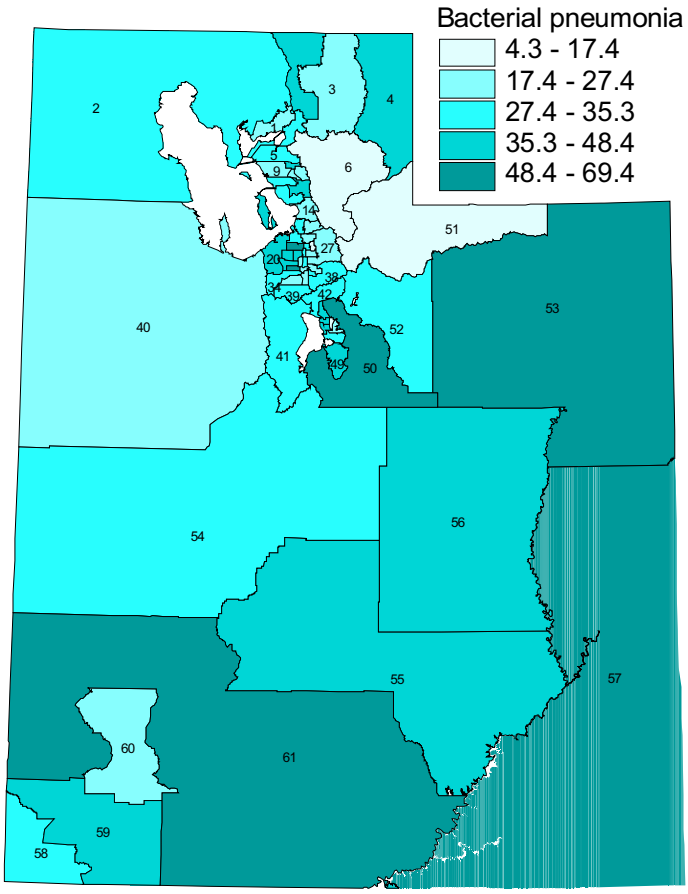
Source: Utah Hospital Discharge Database, 1992-1996.

Ambulatory Care Sensitive Conditions

As ACS conditions account for 13.4 percent of all hospital admissions (excluding those related to birth), small area level analysis of hospitalizations for ACS conditions in Utah was performed for 61 small areas with an average of 33,500 persons. Rural communities, with the exception of major population centers, showed strikingly high rates of hospital admissions for ACS conditions compared with areas constituting the Wasatch Front.

By building the capacity for conducting small area analysis and integrating hospital data with public health data bases in reports and in interactive data bases, the office has become a major analytic and data contributor to public health reports developed by the Department of Health (e.g. The Women's Health Report, chronic disease and injury reports, and other analyses using morbidity data).

Figure 1. Average Annual Rates of Hospitalization for Bacterial Pneumonia per 10,000 Persons. Utah, 1992-96.



Age-adjusted to the 2000 U.S. population using the direct method.
Data Source: Utah Department of Health, Utah Hospital Inpatient Discharge Database, 1992-96. Small area designation for each discharge was based on that patient's residence.

IV. Ambulatory Surgery Data Base

1998 Accomplishments:

- HDA received ambulatory surgery data from hospital-based and freestanding surgical centers for 1996 and 1997.
- The 1996 Ambulatory data set is available as a HDA data product.

1999 Plans:

- The 1997 Ambulatory data set will be available to the public in the fall of 1998.
- Data sets containing both CPT-4 and ICD-9 procedure codes will be collected.
- Summary statistics will be released both in printed form and electronically on HDA's web site.

Publications:

- Leading Ambulatory Surgery Procedures 1996,1997 (To be released December, 1998)

V. Emergency Department Data Base

1998 Accomplishments:

- The Emergency Department patient database was established in partnership with the Bureau of Medical Services under the authority of the Utah Emergency Medical Services Systems Act. It is a statewide statistical profile summary and a public use data set.

- ED-AR2 (1996 ED database in cooperation with the Bureau of Emergency Medical Services) will be released in November of 1998. Statistics on ED visits that resulted in the patient being admitted to the hospital will be stratified by factors such as principal diagnosis, age, sex, and discharge date. Charge and utilization statistics for all hospitals in Utah will be complied as well.

- ED-AR: 96 (Emergency Department Annual Report 1- 1996) was released by the Bureau of Emergency Medical Services and The Office of Health Data Analysis in September 1998. Statistics on charges and utilization of the Emergency Department for patients that were discharged from the ED and not admitted to the hospital were tabulated for individual hospitals.

1999 Plans:

- HDA plans to improve the editing programs used to check for common errors in submitted data, which subsequently improves the accuracy and completeness of the ED database.

- Linkage of ED data with hospital and outpatient data for outcome analysis will be gradually implemented.

Publications:

- ED-AR2 : 1996 Utah Emergency Department Utilization and Charges Profile Statewide Summary for Patients admitted to the Hospital through the ED

- ED-AR1: 96: Emergency Department Annual Report 1, Utah Emergency Department Utilization and Charges Profile Statewide Summary 1996 - Patients admitted to ED but not to hospital.

Emergency Department Use
Top Four Injury Related Visits

	UT # visits	UT% of all injury	US% of all injury
Falls	44,048	23.2	20.6
Striking by Person/Object	29,046	15.3	17.7
Motor Vehicle/ Traffic	21,739	11.4	12.4
Overexertion/ Strenuous movement	13,976	7.4	4.1

VI. HDA Website & Internet Query Systems

1997-1998 Accomplishments:

- Improvements to the Health Information Internet Query System (IQS) (software that enables over 500 Internet users per month to quickly query health care data bases for user-defined tables or graphs of simple statistics) have been continually made.

- HDA staff have played a key role in design and development of Matchiim, a maternal and child web site, that provides information and databases that can be queried by the public. This collaboration with the Division of Community and Family Health Services has enabled Matchiim to be based on IQS, an existing internet query system for HDA.

- Staff have developed and implemented the On-line Hospital Annual Report System that enabled hospitals to submit their annual reports electronically in place of diskette or tape.

- All 1997 HDA reports, publications and brochures are now available on-line in Adobe PDF format. The PDF format makes the documents easy to print, download or read on-line.

- The HDA web site has been constructed so that it is intuitive and easy to navigate for users.

1999 Plans:

- Under the Department of Health Authority, HDA will provide assistance in developing a rule to allow providers to submit data through UHIN or another electronic information network system. UHIN will act as an intermediary and collect electronically submitted data and send it to different payers or organizations that will cut administrative costs and decrease paper claims.

- HDA plans to reevaluate their 'value' to data users and begin to assess a charge for access to on-line databases and information to support funding for HDA.

Background

The Office of Health Data Analysis must meet demands for timely information from a growing number of users. With a small staff, this was not always possible, so the office created an interactive Internet query system as an affordable and efficient means of disseminating health statistics to its customers.

The program is called the Health Information Internet Query System (IQS) and its success has been tremendous. The data bases are queried, on average, by approximately 500 users per month, freeing staff to attend to analyze special reports and respond to other data base development needs. IQS is now serving as the technical foundation for a growing number of other health data agencies, including Utah's public health data agencies and Wisconsin. Other states (North Carolina, Virginia, Washington, and South Carolina) are interested in obtaining the program as well.

Example: The state of Wisconsin's Office of Health Care Information has implemented IQS. In a recent newsletter the following endorsement was published:

Using IQS, "the users can easily query several health care data bases. It takes no programming skills to construct fairly complex data requests and see the results in seconds. For example, with a few mouse clicks, the user can ask the External Injury Data Base to display the total charges associated with motor vehicle accidents, by age group and sex".

Confidentiality and security are always a concern. The office uses public use analytic files only, limits the ability to build queries at the hospital level, separates public access data sets from raw data sets, and suppresses statistical results derived from small numbers.

Stage of Development

IQS is in place for hospital discharge data bases. Mortality data is now available as well, with other public health data bases slated for implementation.

Taking advantage of new technologies and building on the success of IQS, the office plans to use Intranet for on-line editing of hospital discharge data, on-line collection of communicable disease and annual survey data, and providing limited access to sensitive data sets by authorized users.

IQS is a tool for data integration. Merging technology with health data bases, IQS is providing the office with exciting opportunities to integrate health data bases and forge new partnerships.

Sample of IQS output